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ABSTRACT

An integrated model of student variables which predict scores on a reliable teaching evaluation form is presented. Subjects were 249 undergraduate commuter students at a small midwestern university who completed one of 10 different courses specifically selected to provide a representative sample of courses at this university. These courses provided a mixture of class structure, class content and instructor styles. Subjects completed the Student Attitudes toward Courses questionnaire during the second class session of the semester, and the Student Outcomes Measure, designed to assess both performance and subjective outcomes, and the Course Instructor Survey during the last week of the semester. Stepwise multiple regression analysis was performed using all the student variables as predictors against mean teacher evaluation scores. Findings indicate that scores on student evaluations of instruction may be predicted by knowledge of students' management of time demands, their initial impressions of the degree of instructor respect, anticipated intellectual stimulation, and their satisfaction with the results of their performance in the course. (Author/MV)

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The Prediction of Teacher Evaluation Scores from Knowledge of Student Variables

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SUMMARY

Objective

The aim of this study was to define an integrated model of student variables which would predict scores on a reliable college teaching evaluation form.

Perspectives

Much of the research aimed at studying the interaction between student variables and the evaluation of college teaching can be divided into three categories. Category One has focussed upon student demographic data and its relationship with evaluation, e.g. Scott et al, 1974. Research in Category Two has taken student expectations and initial impressions, usually grade expectations or impressions of the instructor's personality, and has tried to define a relationship between these and teacher evaluations, e.g. Holmes, 1972. Research in Category Three has studied the interaction between the end-product of the course, especially expected final grade and achievement test scores, and evaluations, e.g. Sullivan and Skanes, 1974. As a result of this discrete nature of the research in this field results have often been contradictory or inconclusive (cf. Costin et al, 1971 and Doyle and Whitely, 1974). Additionally, students' perceptions of course outcomes as measured by personal growth and attitude change, an important subcategory of student variables identified by Jaeger and Freijo (1974) and Hartley and Hogan (1972) have been virtually ignored by researchers. This study was therefore designed to attempt to clarify the interactions between student variables and teacher evaluation scores by integrating the three categories of student variables defined above and by including subjective student outcomes as a means of providing an integrated, comprehensive model of the ways in which evaluations of college teaching can be related to student variables

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Data Source

Student variables were assessed by two instruments (a) the Student Attitudes toward Courses questionnaire (SATC), and (b) the Student Outcomes Measure (SOM). The SATC consisted of 25 questions designed to measure two of the three categories of student variables, demographics and student expectations. Demographic measures included the more usual variables such as student age, sex, g.p.a. etc., and also reasons for taking the course, outside-school time commitments. Student expectation measures were taken both for the course, e.g. its value, difficulty, stimulation of thought processes and time demands, and for the instructor, e.g. warmth, fairness, respect for students. The SOM was a 10-item questionnaire designed to assess both performance outcomes, such as expected final grade and amount of effort expended, and subjective outcomes e.g. the course was intellectually stimulating, I was really motivated to do well in this course.

Teacher evaluation measures were obtained by the Course Instructor Survey (CIS) a 21-item evaluation form pretested for reliability on a sample of 373 students (Cronbach's alpha .83).

Method

Subjects were 249 undergraduate students (128 male, 121 female) at a small midwestern state university. They were all commuter students and many of them were gainfully employed as well as being students.

Subjects were enrolled in and completed one of 10 different courses specially selected to provide a representative sample of courses at this university (2 from each Academic Division, one upper division, one lower division). These courses provided a mixture of class structure (large lecture sections and small discussion-oriented sections), class content (Humanities, Engineering, Natural Sciences, Social Sciences and Education), and instructor styles (formal lecture,

informal group-centered teaching, lab courses). Subjects completed the SATC during the second class session of the semester and the SOM and the CIS during the last week of the semester (15 weeks later).

Analysis

Stepwise multiple regression analysis was performed using all the student variables as predictor variables against mean teacher evaluation scores.

Results/Conclusions

Significant predictor variables and the direxction of their relationship to high teacher evaluation scores were: (1) family time commitments + $p <$ .01, (2) section chosen because of schedule fit - $p < .01$, (3) expectations of intellectual stimulation + $p < .05$, (4) expected interest level of course - $p < .05$, (5) instructor taken on recommendation of a peer - $p < .01$, (6) initial impression of instructor respect for students + $p < .01$, (7) course was intellectually stimulating + $p < .00$, (8) course required more effort than most - $p < .05$, (9) knowledge gained will be useful in the future + $p < .01$, (10) student performed to best of ability - $p < .05$, (11) student was really motivated to do well + $p < .01$, (12) student gained a lot of knowledge + $p < .01$, (13) student enjoyed taking the course + $p < .01$, (14) anticipated final grade - $p < .05$. (Coefficient of Determination = .71).

The integrated model produced by the results of this study indicates that scores on student evaluations of instruction may be predicted by knowledge of students' management of time demands, of their initial impressions of the degree of instructor respect and intellectual stimulation they will receive throughout the semester, and of their satisfaction with the results of their performance in the course.

Although in this study the usual demographic variables appear to have little value as predictors of evaluations of instructiou significance was reached by

two demographic variables which appear to reflect students' management of time demands, a variable not yet studied as far as this investigator can determine. The fact that high family time demands and commitments appear to be positively related to evaluations might indicate that students with such demands upon them need to have a higher degree of commitment to the completion of their education and that they are therefore more appreciative of the efforts of the instructor. It is also possible that close family ties might produce a sensitivity to the interpersonal dynamics of the teacher-student relationship and thus result in higher degrees of respect for the instructor from students with such family ties. Rigidity of the time schedule under which the student is functioning (sig. variable #2) is also related to time management. The negative value of this item indicates that the more freedom the student has to pick and choose among instructors and courses, the more likely it is that he or she will select an instructor about whom he or she feels positively and to whom favorable evaluations will be given. Student expectation variables which reached significance as predictors seem to represent two areas of concern for students. One is that the instructor be able to relate to them as individuals. The second is intellectual stimulation. Students who anticipate that the course will be intellectually stimulating perhaps create for themselves a self-fulfilling prophesy by which they study harder and are appreciative of the information the instructor provides. On the other hand the inverse value of initial impression of the interest level of the course perhaps indicates that students with low levels of interest in the course are more reliant upon the instructor for stimulation and intellectual growth than are students with high levels of interest in the course and therefore they are more appreciative of the instructor. Also, it is possible that the basis for peer recommendation of instructors might be a pragmatic one; that the teacher is entertaining or teaches an "easy A" course. The

inverse value of this predictor indicates that there could exist a clash of values between a student taking the expedient route through college and the evaluation instrument which is assessing dimensions of teaching behavior which might be perceived by the student as being irrelevant. Examination of the significant variables from category three, student outcomes, (sig. predictors #7-14), suggests that a student with an overall impression of having expended intellectual energy in a course in a meaningful, enjoyable and rewarding way will give the instructor positive evaluations. However, the relationship between student satisfaction and evaluations seems to be complicated by the negative valences of three of the predictors: expected final grade, performing to the best of one's ability, and effort expended relative to other courses. A partial explanation of this might be self-esteem maintenance. Snyder & Clair (1976) hypothesize that students use evaluations of teachers to defend against disconfirmed grade expectations. While similar dynamics may have been working in this study this explanation only partly reflects the results of the analysis. Two of these inverse predictors, effort and performing to the best of ability,could be construed to be measures of self attribution. Their negative value indicates that students who rated themselves positively on these variables and on expected grade might have reasoned that their expected grade was due more to their own effort than that of the instructor and hence they gave low teacher evaluations. Students who did not feel that they had tried very hard in the course and were expecting a lower grade might have reasoned that they deserved the grade and attributed any positive outcomes from the course, including a higher-than-expected grade, to the instructor and thus gave positive evaluations.

Although it would be unwise to infer that a causal relationship exists between the variables measured at the beginning of the semester and those measured at

the end, when the three categories of student variables are integrated it is possible to hypothesize the existence of a logical chain of events. As positive teacher evaluations appear to be given by students who begin the semester with a positive outlook towards the course and the instructor and with high expectations of intellectual stimulation, and as students appear to emphasize in the evaluative process whether or not they have been intellectually stimulated, have gained valuable knowledge and are satisfied with the results of their efforts in the course, it is possible that a process of expectation confirmation might explain students' evaluations of instruction. That is, if students have high expectations of a course and see those expectations being met, without excessive effort on their part, then the instructor receives high evaluations. But, if students feel either that they have not benefitted from taking the course or that their performance in the course was due more to their own effort and ability than that of the instructor, then the instructor receives negative evaluations.

Thus, knowledge of student measures along each of these dimensions allows accurate prediction of mean teacher evaluations scores.

Importance

This study provides important information in that: (a) the methodology of integrating categories of student variables which are usually treated separately or ignored is unique; (b) this methodology has provided a comprehensive insight into the way in which student variables can affect evaluation of instruction; (c) the sample was chosen to include a diversity of teaching styles and situations, the integrated model emerged out of this diversity, which indicates its potency; (d) it has led to the hypothesis of an expectation-confirmation dynamic which might strongly affect teacher evaluation and which is currently being studied in more depth.